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PEARNE & GORDON LLP
526 SUPERIOR AVENUE EAST
SUITE 1200
CLEVELAND, OH 44114-1484

EXAMINER

ZIMMERMAN, GLENN

ART UNIT PAPER NUMBER

2879

DATE MAILED: 07/18/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/934,722

Applicant(s)

SOULES ET AL.

Examiner

Glenn Zimmerman

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133)
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 April 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,5,8,9,11 and 18-21 is/are rejected.
- 7) ☒ Claim(s) 2-4,6,7,10 and 12-17 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 22 August 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☒ The proposed drawing correction filed on 21 April 2003 is: a) ☒ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s) _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 4 6) ☐ Other:

DETAILED ACTION

Drawings

The proposed drawing correction and/or the proposed substitute sheets of drawings, filed on April 21, 2003 has been approved.

Claim Objections

Claim 7 is objected to because of the following informalities: In claim 4 line 1, the examiner suggests changing "slurry" to - - lamp - -. Appropriate correction is required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claim 5, 8,9, 11 and 18-21 is rejected under 35 U.S.C. 102(b) as being anticipated by Kirsanov et al. Union of Soviet Socialist Republics Specification Inventor's Certificate Publication 858,141 English Translation.

Regarding claim 5, Kirsanov et al. disclose a emission mix slurry **(title)** for coating onto a fluorescent lamp electrode, the slurry comprising 20-50 wt.% suspension medium **(page 2 lines 19-20)** and 50-80 wt.% carbonate powder **(page 3 line 2 ball**

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mill) as suspended solids (**page 2 line 18**), the suspension medium being selected from the group consisting of (a) organic materials having a vapor pressure of less than 0.1 mm Hg at 20°C, and (b) water (**page 2 lines 19-20**).

Regarding claim 8, Kirsanov et al. disclose a slurry according to claim 5, wherein the suspension medium is deionized water (**page 5 line 13**).

As to limitation deionized in claim 8, it is the process step incorporated into which renders the claim as a product-by-process.

The courts have been holding that: “ - In spite of the fact that a product-by-process claim may recite only process limitation, it is the product which is covered by the claim and not the recited process steps - - . (In re Hughes, 182 USPQ 106) - - “. Also - - Patentability of a claim to a product does not rest merely on a difference in the method by which that product is made. Rather, it is the product itself which must be new and unobvious. (In re Pilkington, 162 USPQ 147) - - .” Accordingly, “ - - a rejection based on 35 U.S. C. section 102 or alternatively on 35 U.S. C. section 103 of the statute is eminently fair and acceptable.” (In re Brown and Saffer, 173 USPQ 685 and 688). - - The determination of the patentability of product-by-process claim is based on the product itself rather than on the process by which the product is made- - . In re Thrope, 777 F. 2d 695, 227 USPQ 964 (Fed. Cir. 1985).

As such, no patentable weight is given to process steps recited in claim 8.

Regarding claim 9, Kirsanov et al. disclose a slurry according to claim 89, the slurry further comprising at least one additive selected from the group consisting of dispersants, thickeners and binders (**page 4 lines 6-8; page 8 lines 9-10**).

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Regarding claim 11, Kirsanov et al. disclose a slurry according to claim 5, wherein the carbonate powder comprises a mixture of calcium carbonate, barium carbonate and strontium carbonate **(page 2 lines 2-3)**.

Regarding claim 18, Kirsanov et al. disclose a slurry according to claim 5, wherein 100 grams of the slurry retains at least 95% of its initial specific gravity for at least 24 hours under ambient conditions of 1 atm and 22°C in an open beaker. The examiner believes the limitations of claim 18 are inherent. If one has the emissive slurry of claim 5, then one clearly inherently meets the limitations of the functional language of claim 18. If you have the structure then you have the function.

Regarding claim 19, Kirsanov et al. disclose a slurry according to claim 5, wherein 100 grams of the slurry retains at least 95% of its initial specific gravity for at least 48 hours under ambient conditions of 1 atm and 22°C in an open beaker. The examiner believes the limitations of claim 19 are inherent. If one has the emissive slurry of claim 5, then one clearly inherently meets the limitations of the functional language of claim 19. If you have the structure then you have the function.

Regarding claim 20, Kirsanov et al. disclose a slurry according to claim 5, the suspended solids remaining in suspension for at least 2 hours without requiring mixing to re-suspend settled solids. The examiner believes the limitations of claim 20 are inherent. If one has the emissive slurry of claim 5, then one clearly inherently meets the limitations of the functional language of claim 20. If you have the structure then you have the function.

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Regarding claim 21, Kirsanov et al. disclose a slurry according to claim 5, the suspended solids remaining in suspension for at least 24 hours without requiring mixing to re-suspend settled solids. The examiner believes the limitations of claim 21 are inherent. If one has the emissive slurry of claim 5, then one clearly inherently meets the limitations of the functional language of claim 21. If you have the structure then you have the function.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 1 is rejected under 35 U.S.C. 103(a) as being unpatentable over Eckberg U.S. Patent 4,158,153 in view of Kirsanov et al. Union of Soviet Socialist Republics Specification Inventor's Certificate Publication 858,141 English Translation.

Regarding claim 1, Shaffer teaches a mercury vapor discharge lamp (**abstract**) comprising a light-transmissive glass envelope (**glass envelope ref. 1**), an electrode (**hollow cathode members ref. 10**) disposed within the glass envelope to provide a discharge, a phosphor layer (**suitable phosphor ref. 3**) coated adjacent an inner surface of the envelope, a fill gas of mercury and an inert gas sealed inside the envelope (**abstract**), and a rare earth oxide layer (**col. 9 lines 35-37**) substantially uniformly disposed over a surface of the electrode (**col. 2 lines 14-18**), the oxide layer

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being formed of an emission mix slurry, but fails to teach the slurry comprising 20-50 wt.% suspension medium and 50-80 wt.% carbonate powder as suspended solids, the suspension medium being selected from the group consisting of (a) organic materials having a vapor pressure of less than 0.1 mm Hg at 20°C, and (b) water. Kirsanov et al. in the analogous art teach the oxide layer (**page 6 line 1**) being formed from an emission mix slurry (**suspension page 6 line 4**), the slurry comprising 20-50 wt.% suspension medium (**page 6 line 11**) and 50-80 wt.% carbonate powder (**page 6 line 7; page 3 line 2**) as suspended solids, the suspension medium being selected from the group consisting of (a) organic materials having a vapor pressure of less than 0.1 mm Hg at 20°C, and (b) water (**page 6 line 11**). Additionally, Kirsanov et al. teach incorporation of such a slurry to improve the luminous flux stability of the fluorescent lamp at a service life of at least 15,000 hours while providing for a sufficiently durable cathode coating.

Consequently it would have been obvious to a person having ordinary skill in the art at the time the invention was made to use the emission mix slurry in the lamp of Eckberg since such a modification would improve the luminous flux stability of the fluorescent lamp at a service life of at least 15,000 hours while providing for a sufficiently durable cathode coating as taught by Kirsanov et al.

Allowable Subject Matter

Claims 2-4, 6, 7, 10 and 12-17 objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter:

Regarding claim 2, the following is an examiner's statement of reasons for allowance: The prior art of record neither shows nor suggests a lamp including the combination of all the limitations as set forth in claim 2, and specifically the oxide layer being coated on the secondary coiling and having a coating weight of 0.2-0.6 mg/mm along the secondary length could not be found elsewhere in prior art.

Regarding claims 3, 4 and 7, claims 3, 4 and 7 are allowed for the reasons given in claim 2, because of their dependency status on claim 2.

Regarding claim 6, the following is an examiner's statement of reasons for allowance: The prior art of record neither shows nor suggests a slurry including the combination of all the limitations as set forth in claim 6, and specifically wherein the suspension medium is an organic suspension medium could not be found elsewhere in prior art.

Regarding claims 15 and 16, claims 15 and 16 are allowed for the reasons given in claim 6, because of their dependency status on claim 6.

Regarding claim 10, the following is an examiner's statement of reasons for allowance: The prior art of record neither shows nor suggests a slurry including the

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combination of all the limitations as set forth in claim 10, and specifically wherein the suspension medium is selected from the group consisting of polyethylene glycol 300, glycerin and ethylene glycol monomer, and mixtures thereof could not be found elsewhere in prior art.

Regarding claim 12, the following is an examiner's statement of reasons for allowance: The prior art of record neither shows nor suggests a slurry including the combination of all the limitations as set forth in claim 12, and specifically the carbonate powder having a mean particle size of 3-20 micrometers could not be found elsewhere in prior art.

Regarding claim 13, the following is an examiner's statement of reasons for allowance: The prior art of record neither shows nor suggests a slurry including the combination of all the limitations as set forth in claim 13, and specifically wherein the ratio of calcium carbonate: barium carbonate: strontium carbonate in the carbonate powder is about 50:40:10 or about 50:30:20 by weight could not be found elsewhere in prior art.

Regarding claim 14, the following is an examiner's statement of reasons for allowance: The prior art of record neither shows nor suggests a slurry including the combination of all the limitations as set forth in claim and specifically the carbonate powder further comprising zirconium carbonate, the ratio of barium carbonate: strontium carbonate: calcium carbonate: zirconium carbonate being 59:22.3:15.1:3.6 by weight, could not be found elsewhere in prior art.

Regarding claim 17, the following is an examiner's statement of reasons for allowance: The prior art of record neither shows nor suggests a slurry including the combination of all the limitations as set forth in claim 17, and specifically further comprising less than 1 wt.% wetting agent could not be found elsewhere in prior art.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Shaffer U.S. Patent 5,432,403 discloses a Negative Glow Discharge Lamp Having Improved Color Stability and Enhanced Life.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Glenn Zimmerman whose telephone number is (703) 308-8991. The examiner can normally be reached on M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nimesh Patel can be reached on (703) 305-4794. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 308-7382 for regular communications and (703) 308-7382 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is n/a.

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Glenn Zimmerman
July 5, 2003

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EXAMINER